This roundup summarizes some notable recent items about scientific research, selected from news reports compiled in Sigma Xi's free electronic newsletters Science in the News Daily *and* Science in the News Weekly. *Online:* ***http://sitn.sigmaxi.org*** *and* ***http://www.americanscientist.org/sitnweekly***

Time Flies East to West

For natives of northeast Australia, time advances westward. Although many cultures use cardinal directions to denote the locations of objects, linguists have so far found only one—the aboriginal community of Pormpuraaw—that assigns an absolute vector to time. Researchers asked 14 Pormpuraawans and 14 Americans to perform tasks such as arranging pictures in chronological order. The Americans organized times from left to right, but Pormpuraawans overwhelmingly arranged them east to west—regardless of which way they were facing. The Pormpuraawans' system may be an abstraction of the daily east-west path of the sun.

Boroditsky, L., and A. Gaby. Remembrances of times east: Absolute spatial representations of time in an Australian aboriginal community. Psychological Science *(published online October 19)*

Scared Nitrogenless

Grasshoppers are afraid of spiders. That anxiety boosts their metabolism by up to 40 percent, shifts their diet, and could alter grassland ecosystems. In both terrariums and field enclosures, grasshoppers *(Melanoplus femurrubrum)* that felt threatened by spiders *(Pisaurina)* chose food with more carbohydrate fuel relative to nitrogen. The insects' bodies and feces therefore became nitrogen-deprived, and their selective grazing favored the growth of nitrogen-poor plants. All that translates to less-nourishing meals for predators and inferior fertilizer for the soil. The authors suspect that the cascading effects of herbivore fear could affect ecosystem productivity and food-chain length.

Hawlena, D., and O. J. Schmitz. Herbivore physiological response to predation risk and implications for ecosystem nutrient dynamics. Proceedings of the National Academy of Sciences *107:15503–15507 (August 31)*

A Robotic Ruse

Engineers have programmed robots to strategically deceive, an ability they say might be useful on the battlefield. The researchers created a new series of algorithms that tell a robot when it's appropriate to lie (when it's in a conflict and stands to gain by dishonesty) and how to use knowledge of its adversary to deceive effectively. In a real game of robot hide-and-seek, one machine learned to dupe its seeker by toppling markers en route to a false hiding place. The trick worked in 15 out of 20 trials, but there's still a lot of work to do before robots can (or should) go on to mislead cleverer opponents.

Wagner, A. R., and R. C. Arkin. Acting deceptively: Providing robots with the capacity for deception. International Journal of Social Robotics *(published online September 3)*

The Repurposed Cortex

Congenitally deaf cats have keen sight, with a heightened ability to detect movement and peripheral objects. To find the brain regions responsible for deaf cats' enhanced vision, neuroscientists reversibly shut down individual brain areas by chilling them. The key regions were parts of the auditory cortex that normally detect the movement and location of sound—but that, in deaf cats, process visual stimuli instead. Brain regions that perform general tasks, such as detecting movement, may be more amenable to revamping than are regions that perform sense-specific skills, such as discerning color or tone.

Lomber, S. G., et al. Cross-modal plasticity in specific auditory cortices underlies visual compensations in the deaf. Nature Neuroscience *13:1421–1427 (November)*

Largest Marine Virus

Giant viruses straddle the boundary between living and nonliving. For example, the recently sequenced *Cafeteria roenbergensis* virus (CroV) boasts a 730,000-base-pair genome. That's the largest yet found in a marine virus, and bigger than some bacterial genomes. CroV still can't reproduce without its host (the single-celled predator *C. roenbergensis*), but it does encode most of the proteins it needs for replication. That sets it apart from better-known viruses that carry only a handful of genes. Microbiologists are still trying to understand how giant viruses got so big; CroV seems to have duplicated many genes and also acquired some from other organisms.

Fischera, M. G., et al. Giant virus with a remarkable complement of genes infects marine zooplankton. Proceedings of the National Academy of Sciences *(published online October 25)*

Dying Winds

The Northern Hemisphere is calmer than it was 30 years ago, in part because forests are reclaiming abandoned cropland. That's according to a new analysis of data from more than 800 weather stations in the northern mid latitudes since 1979. Nearly three-quarters of those sites saw a 5 to 15 percent decline in annual average wind speed 30 feet above the ground, confirming a trend previously observed in smaller local datasets. Increased vegetation—mostly as a result of post-Soviet land-use changes in Eurasia—accounted for a large share of the calming. Whether climate change may also have a role is unclear, but climatologists will be watching closely for continued shifts in the wind.

Vautard, R., et al. Northern Hemisphere atmospheric stilling partly attributed to an increase in surface roughness. Nature Geoscience *(published online October 17)*

Heads Up!

If only birds would watch where they're flying, power lines might not be such a menace. But for species with an expansive blind spot, that's not so easy. Working with a handful of fowl from South African zoos, researchers performed eye exams on species that suffer high mortality from power-line collisions. They discovered a large blind spot in kori bustards *(Ardeotis kori)* and blue cranes *(Anthropoides paradisea)*. When these species look down to spot roosts or other birds while flying, their blind spot is dead ahead, obscuring dangerous wires. Distracting such birds away from power lines—rather than adding flags and reflectors to the wires themselves—may be a good conservation strategy.

Martin, G., and J. Shaw. Bird collisions with power lines: Failing to see the way ahead? Biological Conservation *143:2695–2702 (November)*